IN THE CLAIMS:

Please cancel claim 16 without prejudice, amend claims 1, 10, 14, 15 and 17, and add new claims 19 to 26 as follows:

1. (currently amended) A solid state p-n heterojunction consisting of ~~a~~ an n-type semiconductor in the solid state, a p-type semiconductor in the solid state and ~~of~~ a sensitizing semiconductor, ~~said sensitizing semiconductor being located at an interface between said n-type semiconductor and said p-type semiconductor, said p-type semiconductor being in the solid state,~~ said sensitizing semiconductor consisting of individual particles adsorbed at the surface of said n-type semiconductor, said individual particles being quantum dots, with a plurality of individual point-contact junctions between said quantum dots and said n-type semiconductor ~~on one hand~~ and between said quantum dots and said p-type semiconductor ~~on the other hand~~.

Claims 2-5 (canceled)

6. (previously presented) A heterojunction as claimed in claim 1, characterised in that said n-type semiconductor is a ceramic made of finely divided large band gap metal oxide.

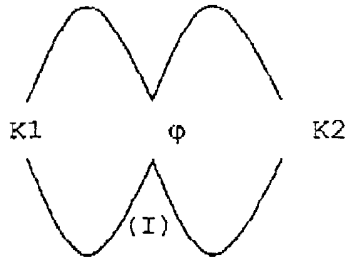
7. (previously presented) A heterojunction as claimed in claim 1, characterised in that said n-type semiconductor is nanocrystalline TiO_2.

8. (previously presented) A heterojunction as claimed in claim 1, characterised in that said p-type semiconductor is an inorganic hole transporting solid compound.

9. (previously presented) A heterojunction as claimed in claim 1, characterised in that said p-type semiconductor is an amorphous reversibly oxydisable organic or organometallic compound.

10. (currently amended) A heterojunction as claimed in claim 1, characterised in that said ~~hole conductor~~ p-type semiconductor is a polymer.

11. (previously presented) A heterojunction as claimed in claim 1, characterised in that said p-type semiconductor is selected from the group consisting of Spiro and Heterospirocompounds of general formula (I),



wherein φ is one of C, Si, Ge or Sn, and K1 and K2 are independently one from the other conjugated systems.

12. (previously presented) A heterojunction as claimed in claim 11, wherein said p-type semiconductor is OMeTAD.

13. (previously presented) A heterojunction as claimed in claim 1, wherein said quantum dots are particles consisting of PbS, CdS, Bi_2S_3, Sb_2S_3, Ag_2S, InAs, InP, CdTe, CdSe or HgTe or solid solutions of HgTe/CdTe or HrSe/CdSe.

14. (currently amended) A solid state sensitized photovoltaic cell comprising a solid state p-n heterojunction ~~as claimed in claim 1~~ consisting of an n-type semiconductor in the solid state, a p-type semiconductor in the solid state and a sensitizing semiconductor, said sensitizing semiconductor consisting of individual particles adsorbed at the surface of said n-type semiconductor, said individual particles being quantum dots, with a plurality of individual point-contact junctions between said quantum dots and said n-type semiconductor and between said quantum dots and said p-type semiconductor.

15. (currently amended) A cell as claimed in claim 14, characterised in that it comprises

a transparent first electrode,

a said solid state p-n heterojunction ~~and~~

a second electrode, and further comprises a dense semiconductive layer between said first electrode and said solid state p-n heterojunction.

16. (canceled)

17. (currently amended) A cell as claimed in claim 14, characterised in that said solid state p-n heterojunction is obtained by forming quantum dots in the nanometer range on the surface of said n-type semiconductor by more than one deposition treatment and less than 10 deposition treatments, before providing said p-type semiconductor to said ~~layered~~ solid state p-n heterojunction.

18. (canceled)

19. (new): A solid state p-n heterojunction as claimed in claim 1, characterized in that said solid state p-n heterojunction is obtained by forming quantum dots in the nanometer range on the surface of said n-type semiconductor by more than one deposition treatment and less than 10 deposition treatments, before providing said p-type semiconductor to said solid state p-n heterojunction.

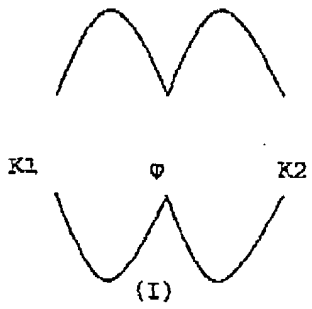
20. (new): A cell as claimed in claim 14, characterized in that said n-type semiconductor is a ceramic made of finely divided large band gap metal oxide.

21. (new): A cell as claimed in claim 14, characterized in that said n-type semiconductor is nanocrystalline TiO_2.

22. (new): A cell as claimed in claim 14, characterized in that said p-type semiconductor is a polymer.

23. (new): A cell as claimed in claim 14, characterized in that said p-type semiconductor is an amorphous reversibly oxydisable organic or organometallic compound.

24. (new): A cell as claimed in claim 14, characterized in that said p-type semiconductor is selected from the group consisting of Spiro and Heterospirocompounds of general formula (I),



(I)

wherein φ is one of C, Si, Ge or Sn, and K1 and K2 are independently one from the other conjugated systems.

25. (new): A cell as claimed in claim 14, wherein said p-type semiconductor is OMeTAD.

26. (new): A cell as claimed in claim 14, wherein said quantum dots are particles consisting of PbS, CdS, Bi_2S_3, Sb_2S_3, Ag_2S, InAs, InP, CdTe, CdSe or HgTe or solid solutions of HgTe/CdTe or HgSe/CdSe.